Hydrologic Model Manager

Short Name	CLS model
Long Name	
Description	
Model Type	Multiple input single output linear system model
Model Objectives	To simulate non-linear rainfall runoff and flood routing processes
Agency _Office	Department of Earth and Geo-Environmental Sciences, University of Bologna, Bologna, Italy
Tech Contact	Professor E. Todini
Model Structure	The model is based on a piecewise approximation of the nonlinear rainfall runoff and routing processes, with impulse responses derived by quadratic programming
Interception	
Groundwater	
Snowmelt	
Precipitation	
Evapo-transpiration	
Infiltration	
Model Paramters	8 parameters
Spatial Scale	Catchment or sub-catchment scale
Temporal Scale	Continuous time
Input Requirements	Rainfall, antecedent moisture condition and watershed maps
Computer Requirements	PC with windows
Model Output	Discharge hydrograph
Parameter Estimatn Model Calibrtn	Estimated by optimization, such as constrained linear least squares method.
Model Testing Verification	Extensively tested and verified
Model Sensitivity	Not given
Model Reliabiity	Not reported, but the model accuracy is with 20 %
Model Application	Arno River, Nile River, Niger River, and others
Documentation	Not available in public domain but it can be obtained from Professor Todini.
Other Comments	Promising tool for flood forecasting at the catchment scale. References: IBM Italy, 1977. Modelle Matematico delle Piene dell'Arno (in Italian). Editrice Adonia, Milano. Natale, L and Todini, E., 1977. A constrained parameter estimation technique fro linear models in hydrology. In Mathematical Models for Surface Water Hydrology, edited b T. A. Ciriani, U. Maione and J. R. Wallis, pp. 109-147, John Wiley & Sons, London.

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Developer	
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